EDITING ALIGNMENTS-ALIGNMENT LAYOUT TOOLS

The *Alignment Layout Tools* toolbar is used to edit the properties of existing alignments, and is also launched when creating a new alignment using the *Alignment Creation Tools* option. This guide provides a brief summary of the commands located on the *Alignment Layout Tools* toolbar.

Insert PI
Breaks a fixed line into two adjacent fixed lines by creating a point of intersection (PI) at a point that you specify.

Delete PI
Creates a single tangent from two adjacent tangents by removing their point of intersection (PI).

Break Apart PI
Separates the point of intersection (PI) where the endpoints of two fixed or floating tangents meet.

Convert AutoCAD Line And Arc
Creates a fixed two-point line or three-point curve alignment entity from an AutoCAD object.
An alignment sub-entity that has been converted from an AutoCAD entity may be added as a solved portion of the alignment geometry in either of two ways:

- Before the AutoCAD entity is converted, it must be attached to an unattached end point of another solved sub-entity in the alignment.
- After the AutoCAD entity has been converted, it may be joined to the solved alignment geometry using the alignment layout tools.

Reverse Sub-entity Direction
Reverses the direction of a fixed, unconnected line or curve sub-entity.

Delete Sub-Entity
Deletes a specified alignment sub-entity.

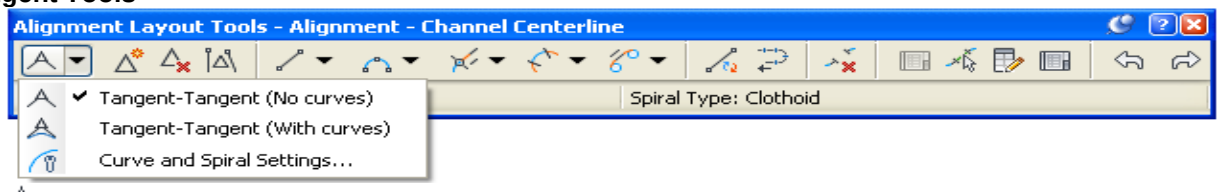
Edit Best Fit Data For All Entities
Displays a table of data that contains the original regression data for all alignment sub-entities that were created by best fit.

Pick Sub-entity
Displays a selected sub-entity's parameters for editing.

Alignment Layout Parameters
Displays a vertical table of numeric data about a single, selected alignment sub-entity.

Alignment Entities
Displays a horizontal table of numeric data about multiple, selected alignment subentities. The properties of entities that are part of the alignment, such as curve lengths and radii, can be edited directly through this table.

Tangent Tools



Tangent-Tangent (No Curves)
Adds a series of fixed tangents between specified points.

Tangent-Tangent (With Curves)
Adds a series of fixed tangents between specified points, with free curves automatically added at the points of intersection.

Curve And Spiral Settings
Specifies the curve parameters to use with the Tangent-Tangent With Curves command.

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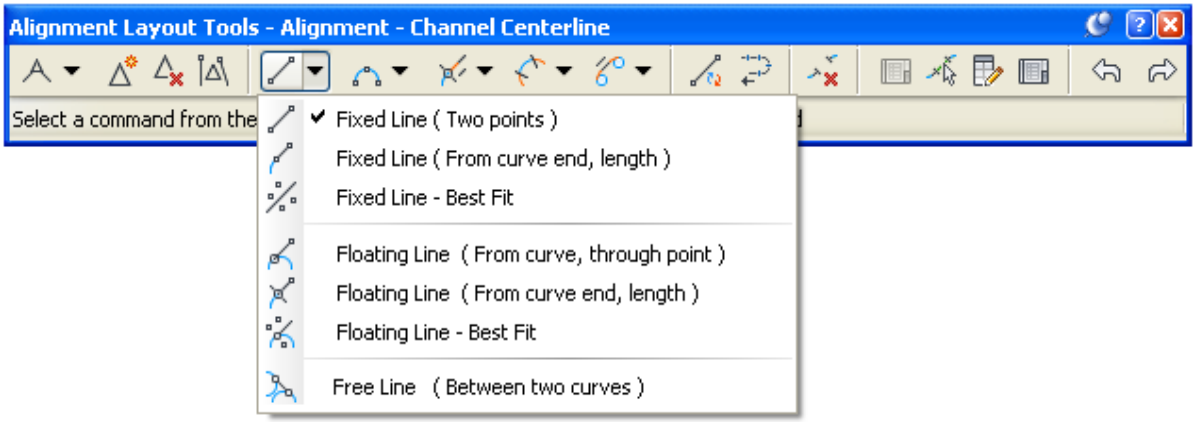
Line Tools



Fixed Line (Two points)
Adds a fixed line between two specified points.

Fixed Line (From curve end, length)
Adds a fixed line to and from the endpoint of an existing curve to another specified point. Tangency is not maintained if either entity is edited.

Fixed Line - Best Fit
Adds the most probable fixed line through a series of AutoCAD Civil 3D points, AutoCAD points, existing entities, or clicks on screen.

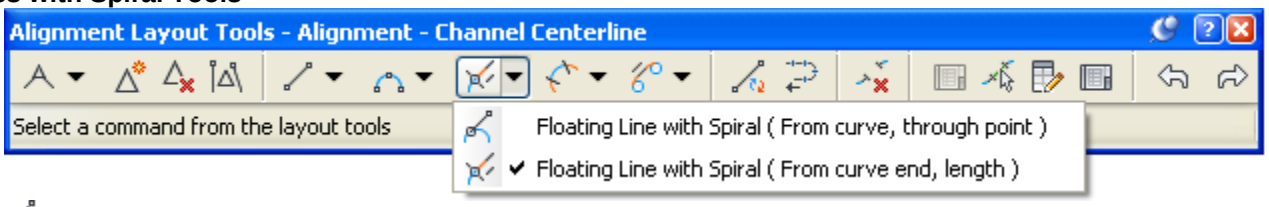
Floating Line (From curve, through point)
Adds a floating line from any point on an existing curve entity through a specified point.

Floating Line (From curve end, length)
Adds a floating line tangent, with a specified length, to the end of a curve entity. Tangency is maintained to the attached entity end, regardless of how the entity is edited.

Floating Line - Best Fit
Adds the most probable floating line from a point on an existing entity through a series of AutoCAD Civil 3D points, AutoCAD points, existing entities, or clicks on screen. Tangency is maintained to the attached entity, regardless of how the entity is edited.

Free Line (Between two curves)
Adds a free line between two existing curves.

Lines with Spiral Tools



Floating Line with Spiral (From curve, through point)
Adds a floating spiral-line group, which is defined by a specified pass-through point, to a curve.

Floating Line with Spiral (From curve end, length)
Adds a floating spiral-line group, which is defined by the line length, to a curve.

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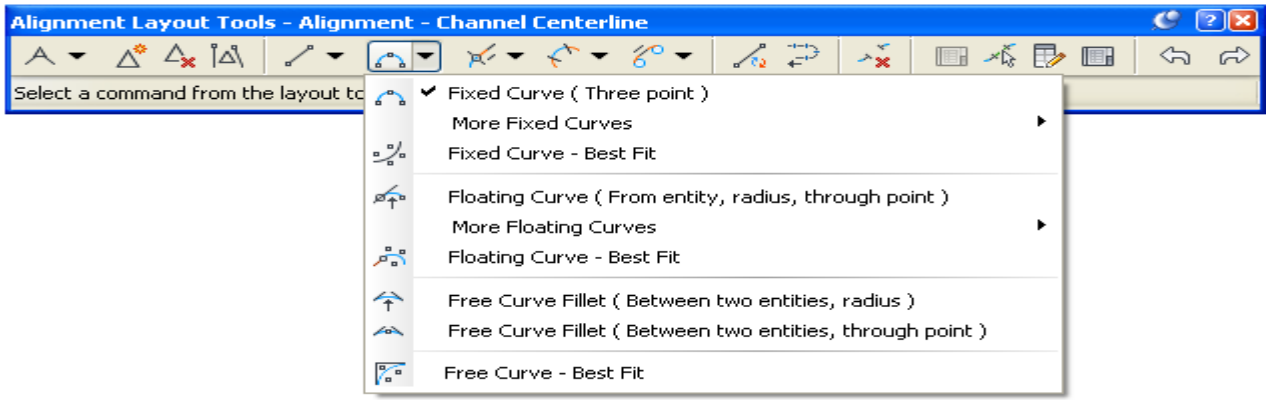
Curve Tools



Fixed Curve (Three points)
Adds a fixed curve through three points.

Fixed Curve (Two points and direction at first point)
Adds a fixed curve that is defined by specified start and end points and a direction at the start point.

Fixed Curve (Two points and direction at second point)
Adds a fixed curve that is defined by specified start and end points and a direction at the end point.

Fixed Curve (Two points and radius)
Adds a fixed curve that is defined by specified radius, direction, and start and end points.

Fixed Curve (From entity end, through point)
Adds a fixed curve from the end of an existing entity to a specified end point.

Fixed Curve (Center point and radius)
Adds a full, fixed circle that is defined by a specified center point, direction, and radius.

Fixed Curve (Center point and through point)
Adds a full, fixed circle that is defined by a specified center point, direction, and pass-through point.

Fixed Curve (Through point, direction at point and radius)
Adds a full, fixed circle that is defined by a specified pass-through point, direction at the pass-through point, curve direction, and radius.

Fixed Curve - Best Fit
Adds the most probable fixed curve through a series of AutoCAD Civil 3D points, AutoCAD points, existing entities, or clicks on screen.

Floating Curve (From entity, radius, through point)
Adds a floating curve, which is defined by a specified radius and angle range, from an existing entity to a specified end point.

Floating Curve (From entity end, through point)
Adds a floating curve from the end of an existing entity to a specified pass-through point.

Floating Curve (From entity, through point, direction at point)
Adds a floating curve from an existing entity to a specified pass-through point.

Floating Curve (From entity end, radius, length)
Adds a floating curve, which is defined by a specified direction, radius, and length, to the end of an existing entity.

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Curve Tools (Cont)

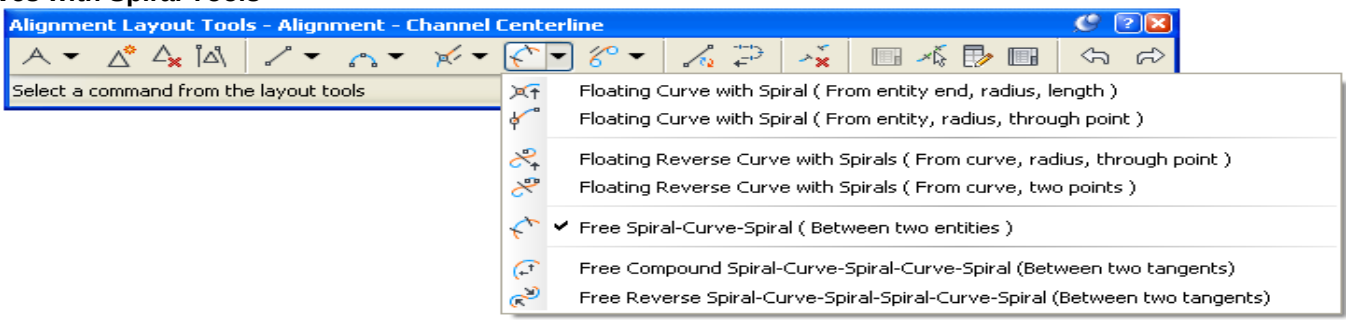
Floating Curve - Best Fit
Adds the most probable floating curve from an existing entity through a series of AutoCAD Civil 3D points, AutoCAD points, existing entities, or clicks on screen. Tangency is maintained to the attached entity, regardless of how the entity is edited.

Free Curve Fillet (Between two entities, radius)
Adds a free curve, which is defined by a specified angle range and radius, between two entities.

Free Curve Fillet (Between two entities, through point)
Adds a free curve, with a specified pass-through point, between two entities.

Free Curve - Best Fit
Adds the most probable free curve between two existing entities, and through a series of AutoCAD Civil 3D points, AutoCAD points, existing entities, or clicks on screen. Tangency is maintained to the attached entities, regardless of how the entities are edited.

Curves with Spiral Tools



Floating Curve with Spiral (From entity end, radius, length)
Adds a floating spiral-curve group, which is defined by a specified radius and pass-through point, to a line.

Floating Curve with Spiral (From entity, radius, through point)
Adds a floating spiral-curve group, which is defined by a specified radius and length, to a curve.

Floating Reverse Curve with Spirals (From curve, radius, through point)
Adds a floating reverse spiral-spiral-curve group, which is defined by a specified radius and pass-through point, to a curve.

Floating Reverse Curve with Spirals (From curve, two points)
Adds a floating reverse spiral-spiral-curve group, which is defined by two specified pass-through points, to an existing curve.

Free Spiral-Curve-Spiral (Between two entities)
Adds a free spiral-curve-spiral group between

- Two tangents, creating a simple spiral.
- A tangent and a curve, creating a compound spiral at one end and a simple spiral at the other end.
- Two curves, creating two compound spirals at each end.

Free Compound Spiral-Curve-Spiral-Curve-Spiral (Between two tangents)
Adds a free compound spiral-curve-spiral-curve-spiral group between two tangents. You can specify a zero length for any of the three spirals.

Free Reverse Spiral-Curve-Spiral-Spiral-Curve-Spiral (Between two tangents)
Adds a free reverse spiral-curve-spiral-spiral-curve-spiral group between two tangents.

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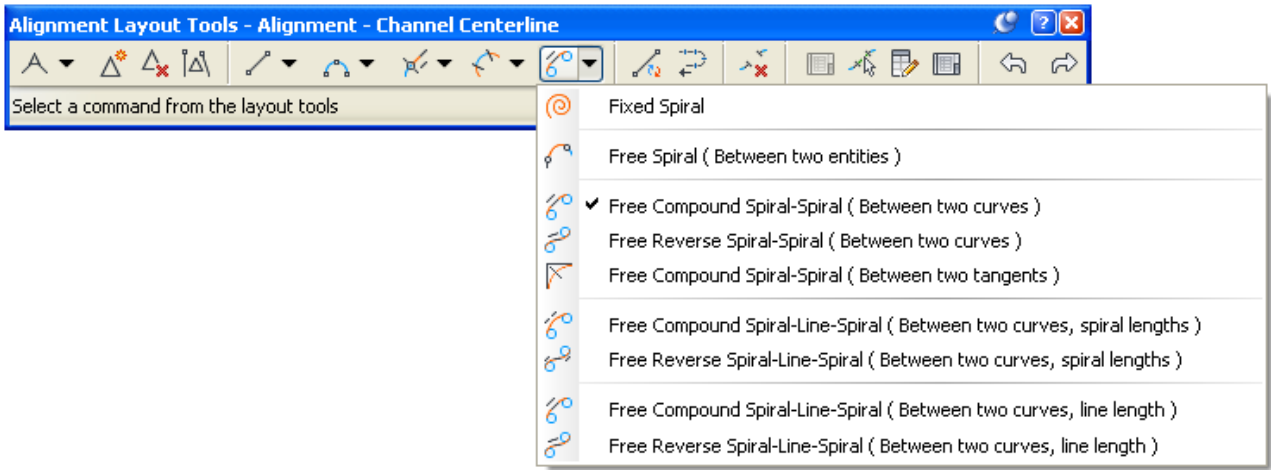
Spiral Tools



Fixed Spiral
Adds a fixed spiral, which is defined by a specified radius and length, to the end of a line or curve.

Free Spiral (Between two entities)
Adds a free, compound spiral between two curves with different radii.

Free Compound Spiral-Spiral (Between two curves)
Adds a free compound spiral-spiral group between two curves.

Free Reverse Spiral-Spiral (Between two curves)
Adds a free reverse spiral-spiral group between two curves.

Free Compound Spiral-Spiral (Between two tangents)
Adds a free compound spiral-spiral between two tangents.

Free Compound Spiral-Line-Spiral (Between two curves, spiral lengths)
Adds a free compound spiral-line-spiral group, which is defined by specified spiral lengths, between two curves.

Free Reverse Spiral-Line-Spiral (Between two curves, spiral lengths)
Adds a free reverse spiral-line-spiral group, which is defined by specified spiral lengths, between two curves.

Free Compound Spiral-Line-Spiral (Between two curves, line length)
Adds a free compound spiral-line-spiral group, which is defined by a specified line length, between two curves.

Free Reverse Spiral-Line-Spiral (Between two curves, line length)
Adds a free reverse spiral-line-spiral, which is defined by a specified line length, between two curves.